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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/975,059	10/11/2001	Chad A. Mirkin	00-713-i15	2661

7590

09/29/2003

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EXAMINER

RILEY, JEZIA

ART UNIT	PAPER NUMBER
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1637

DATE MAILED: 09/29/2003

*Handwritten signature/initials*

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/975,059

Applicant(s)

MIRKIN ET AL.

Examiner

Jezia Riley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 433-486 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 446-454 is/are allowed.
- 6) ☒ Claim(s) 433-443, 458-465, 474 and 476-486 is/are rejected.
- 7) ☒ Claim(s) 455-457, 466-473, 475 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other:

## **DETAILED ACTION**

### ***Response to Remarks***

1. Applicants' arguments and amendments, filed on 7/22/03, have been approved and entered. They have been fully considered but they are not deemed to be persuasive. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either newly applied or reiterated. They constitute the complete set presently being applied to the instant application.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 433-443, 458-465, 474, 476-486 are rejected under 35 U.S.C. 102(e) as being anticipated by Yguerabide et al. (6,214,560).

Applicant have the argument that the reference does not anticipate the instant invention . This is not convincing because Yguerabide et al. discloses an analyte assay using gold particulate label for specific detection of one or more analytes in a sample. One or more analytes, (which is viewed to be the target), in a sample can be detected and measured by detection and/or measurement of one or more of the specific light scattering properties of metal-like particles. (Summary of the Invention). Then two or more unique single-stranded "probe" nucleic acid sequences are added to the sample where these different probes bind to different regions of the target strand which is

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viewed to be inclusive of the portions of the oligonucleotide of the instant application. Each of these probes has attached to one or more particles (col. 74) which is viewed to be inclusive of at least two nanoparticles of the instant invention. FIGS. 22, 23, and 24 outline methods for using light scattering particles and specific methods, which leads to specific test kits and apparatus. Further Yguerabide does not specifically states the words recognition oligonucleotides but it is stated in the reference methods of attachment of substances to particles and other surfaces. In these methods of attaching substances to particles or other surfaces, a two step approach which involves the use of base material molecules is used. The base molecule they have prepared are two different types of particle-binding agent reagents. One reagent contains biotin groups as binding agents and the other particle-binding agent reagent was made to contain single-stranded nucleic acids as binding agents. Such binding agents are viewed to be probes and said probes are therefore used to detect targets. And as stated in the reference, said probes can bind to different regions of the target strand. Which are viewed to be inclusive of the recognition oligonucleotide of the instant invention as defined in page 22, lines 2-6.

For example, nucleic acids contain a phosphate backbone which contains a high negative charge. A single-stranded nucleic acid is end labeled with a thiol or disulfide at the 3' or 5' end with or without additional hydrophobic groups incorporated into the same region of the molecule. This modified nucleic acid will bind to the metal surface or particle at the end labeled with these groups. The ionic part of the nucleic acid keeps the main chain of the nucleic acid's molecular structure away from the surface such that

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it is accessible for molecular interactions with most any substance that can specifically bind to it. (col.80, lines 26-36).

Method is used for detection and measurement across a wider concentration range of analyte(s) than was previously possible. Rather than illustrate the broad utility by explicit illustrations of each specific practice of a particular form of the invention, applicant describes the key elements and considerations for one of average skill in the art to practice this invention to fit most if not all analyte detection needs. Such practice leads to specific apparatus and test kits. (col.17). Which is vied to be inclusive of all type of target of instant claims 434-445.

4. Claims 455-457, 466-473, 475 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Claims 446-454 are allowed.

6. **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire THREE MONTHS from the date of this action. In the event a first response is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then

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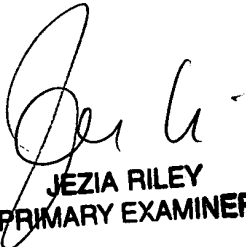
the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jezia Riley whose telephone number is 703-305-6855. The examiner can normally be reached on 9:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 703-308-1119. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

September 27, 2003

  
JEZIA RILEY  
PRIMARY EXAMINER